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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/665,179	09/19/2000	Dusko Pavlovic	4483	4824

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EXAMINER

PHAM, THOMAS K

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 01/12/2004

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/665,179

Applicant(s)

PAVLOVIC ET AL.

Examiner

Thomas K Pham

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2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 September 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,4,7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Regarding claims 1 and 12

Specware teaches

A computer-implemented method of automated software specification comprising:

- storing specification modules, with their relations displayed on a computer screen in terms of their specification morphisms, where the specification morphisms translate the specification signatures while preserving the logical structure of the specification (page 4-4 Accessing the Specware Library, “SPECWARE includes a library ... defining your own”);
- determining and displaying, in response to a user command, multiple specification diagrams, each of which captures the relation between two or more specification modules, along with its specification morphisms (page 1-5 Building a Specification, “You must build a specification ... adding more structural detail”);
- building and displaying, in response to a user command, a diagram of the specification diagrams, the diagram of specification diagrams retaining the diagram morphisms of the specification diagrams (page 5-6 Specification Diagrams, “A specification diagram, also known as ... operations on existing diagrams”); and
- computing the colimits of the hereditary diagram of diagrams to compose large software modules while preserving the decomposition of the involved components (pages 3-3 to 3-5 Shared Union, “The colimit operation creates ... same is true of operations”).

Regarding claim 2

Specware teaches

A computer-implemented method for determining a colimit of a hereditary diagram, comprising:

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- extracting the shape colimit of the hereditary diagram stored in a memory, the hereditary diagram including a plurality of diagrams, bringing each of the plurality of diagrams in the hereditary diagram to the shape of the shape colimit to yield a plurality of extended diagrams in the memory, and taking the colimit of the extended diagrams (pages 5-14 to 5-16 Creating Shared Unions, “The most powerful tool for ... A cocone diagram is displayed, as shown in Figure 5-7”).

Regarding claim 3

Specware teaches

- receiving from the user an indication to find the colimit of the hereditary diagram (page 5-15 “How to: Create a Shared Union ...”).

Regarding claim 4

Specware teaches wherein extracting the shape colimit of the hereditary diagram includes:

- determining the shape of each of the plurality of diagrams to yield a shape graph in the memory (page 3-5, “The defining diagram ... in the shared union”); and
- automatically calculating a colimit of the shape diagram (page 3-4, “SPECWARE automatically creates ... to the colimit”).

Regarding claim 5

Specware teaches

- displaying a representation of the colimit on a display device (page 3-4, “The shared union can be ... the cocone morphisms”).

Regarding claim 6

Specware teaches

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- the representation of the colimit is the name of the colimit (page 3-5, "SPECWARE generates unambiguous names ... postfixes a number").

Regarding claim 7

Specware teaches

- the representation of the colimit is a picture of the diagram of the colimit (page 5-16, Figure 5-7).

Regarding claim 8

Specware teaches

- the hereditary diagram includes types of the diagram elements (page 2-19, "A specification diagram ... their identifying labels").

Regarding claim 9

Specware teaches

- the hereditary diagram includes morphisms between the diagram elements (page 3-11, Figure 3-7).

Regarding claim 10

Specware teaches

- the hereditary diagram is displayed with indicators on its arcs indicating what morphism is associated with the arcs (page 2-20, Table 2-3).

Regarding claim 11

Specware teaches

- the colimit of the hereditary diagram is displayed with indicators on its arcs indicating that arcs constitute a cocone colimit (page 3-5, Figure 3-1).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (703) 305-7587 and fax number is (703) 746-8874, Monday-Thursday and every other Friday from 7:30AM- 5:00PM EST or contact Supervisor *Mr. Anil Khatri* at (703) 305-0282.

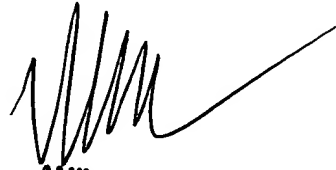
Any response to this office action should be mailed to: **Director of Patents and Trademarks Washington, D.C. 20231**, or **Hand-delivered** responses should be brought to **Crystal Park II, 2121 Crystal Drive Arlington, Virginia, (Receptionist located on the 4th floor)**, or fax to the **official fax number (703) 872- 9306**.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Thomas Pham
Patent Examiner

TP

January 6, 2004


ANIL KHATRI
SUPERVISORY PATENT EXAMINER